

In the Claims.

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15. (New) A method for removal of ions of heavy metals from an aqueous solution to reduce residual heavy metal ion concentration to levels below 1.0 ppm, said method comprising: formation of insoluble compounds of said heavy metals, precipitation of said insoluble compounds from the aqueous solution and separation of said insoluble compounds from the aqueous solution, wherein at least formation of said insoluble compounds is carried out in the presence of a magnetic field with a magnetic strength of at least 300 Gauss, the precipitation of said insoluble compounds is carried out in the presence of a chemically active seed, and formation of said insoluble compounds comprises direct formation of ferrites of said heavy metals without intermediate formation of hydroxides of said heavy metals.

16. (New) A method as claimed in Claim 15 wherein formation of said insoluble compounds comprises:

- a. providing a source of OH^- ions
- b. adding said source of OH^- ions to the aqueous solution.

17. (New) A method as claimed in Claim 16, further comprising adjusting the pH value of said aqueous solution to an appropriate value to initiate formation of ferrites of said heavy metals.
18. (New) A method as claimed in Claim 17, wherein the pH value of the aqueous solution is kept between 8 and 10.
19. (New) A method as claimed in Claim 16, wherein said source of OH^- ions comprises a base.
20. (New) A method as claimed in Claim 19, wherein said base is NaOH.
21. (New) A method as claimed in Claim 15, wherein said seed comprises chemically active magnetite.
22. (New) A method as claimed in Claim 15, further comprising recirculation of at least a portion of the precipitated insoluble compounds.
23. (New) A method as claimed in Claim 16, wherein the weight ratio between the total amount of iron ions in the aqueous solution and the amount of ions of heavy metals in the precipitated solid ferrites is less than 8.
24. (New) A method as claimed in Claim 15, wherein separation of precipitated insoluble compounds from the aqueous solution comprises a filtration procedure.
25. (New) A method as claimed in Claim 15, wherein separation of precipitated insoluble compounds from the aqueous solution comprises a settling procedure.